

**Notice of Allowability**

Application No.

09/871,712

Examiner

Fadi H. Dahbour

Applicant(s)

HOSHINO ET AL.

Art Unit

3743

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed on 05/09/05.
2. ☒ The allowed claim(s) is/are 2-7,9,11,12,14-34 and 36-44.
3. ☒ The drawings filed on 07 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
Fadi H. Dahbour  
Examiner  
Art Unit 3743

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. The Examiner acknowledges Applicant's submission of the communication filed on 05/09/05.
2. The allowed claims are 2-7, 9, 11-12, 14-34, 36-44.

3. The following is an examiner's statement of reasons for allowance. The prior art of record does not teach or fairly suggest the recitations of the specific features of the system and method, of claims 2, 9, 11, 14, 18, 23, 24, 26, 32, 33, 36, 38, 41-44, including especially the following:

The primary reason for the allowance of independent claim 2, is the inclusion of the production means for producing, as the information in relation to the movement state, movement locus data indicative of an inserted part of the device from the data indicative of the position of the tip detected by the detection means, and movement locus display means for displaying the movement locus data.

The primary reason for the allowance of independent claim 9, is the inclusion of the time information indicative of the sequence of time is one of intensity degrees for displaying the data of the position, different hues for displaying the data of the position, and thinning degrees of data for displaying the data of the position.

The primary reason for the allowance of independent claim 11, is the inclusion of the RF detection coil attached on the tip of the device, means for acquiring, together with application of a gradient magnetic field to the coil, an MR signal from a vicinity of the coil excited by an RF magnetic field, and means for obtaining a position of the coil as the position of the tip through a frequency analysis of the MR signal.

The primary reason for the allowance of independent claim 14, is the inclusion of the control means for controlling imaging parameters included in the pulse sequence on the basis of the positional information detected by the position detecting means so that the section always contain the device.

The primary reason for the allowance of independent claim 18, is the inclusion of the preoperative plan means for planning information in relation to the operations of the device based on the image prior to the operations, and output means for outputting the information.

The primary reason for the allowance of independent claim 23, is the inclusion of the planning before the operations, information in relation to the operations of the device based on the image while the object is laid on the couch, and outputting the planned information.

The primary reason for the allowance of independent claim 24, is the inclusion of the movement display unit displaying information in relation to a temporally-traced movement of an inserted part of the device on the basis of data indicative of the position of the tip detected by the detection means.

The primary reason for the allowance of independent claim 26, is the inclusion of the production means for producing movement locus data indicative of the device from the data indicative of the position of the tip detected by the producing means, and display means for displaying the movement locus data.

The primary reason for the allowance of independent claim 32, is the inclusion of the information indicative of the sequence of time is one of intensity degrees for displaying the data of the position, different hues for displaying the data of the position, and thinning degrees of data for displaying the data of the position.

The primary reason for the allowance of independent claim 33, is the inclusion of the RF detection coil attached on the tip of the device, means for acquiring, together with application of a magnetic gradient, an MR signal from a vicinity of the coil excited by an RF magnetic field, and means for obtaining a position of the coil as the position of the tip through a frequency analysis of the MR signal.

The primary reason for the allowance of independent claim 36, is the inclusion of displaying information in relation to a temporally-traced movement of an inserted part of the device on the basis of data indicative of the detected position of the tip.

The primary reason for the allowance of independent claim 38, is the inclusion of producing movement locus data indicative of the device from the data indicative of the detected position of the tip and displaying the produced movement locus data.

The primary reason for the allowance of independent claim 41, is the inclusion of the information indicative of the sequence of time is one of intensity degrees for displaying the data of the position, different hues for displaying the data of the position, and thinning degrees of data for displaying the data of the position.

The primary reason for the allowance of independent claim 42, is the inclusion of attaching the RF detection coil on the tip of the device, acquiring together with application of a magnetic gradient, an MR signal from a vicinity of the coil excited by an RF magnetic field, and obtaining a position of the coil as the position of the tip through a frequency analysis of the MR signal.

The primary reason for the allowance of independent claim 43, is the inclusion of the controlling imaging parameters included in the pulse sequence on the basis of the detected positional information so that the section always contain the device.

The primary reason for the allowance of independent claim 44, is the inclusion of preoperatively planning information in relation to the operations of the device based on the image prior to the operations, and outputting the planned information.

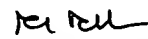
4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fadi H. Dahbour whose telephone number is 571-272-4792. The examiner can normally be reached on M-F, 9am-5:30pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry A. Bennett, can be reached on (571) 272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Fadi H. Dahbour  
Examiner  
Art Unit 3743